OIPE

```
               RAW SEQUENCE LISTING              DATE: 02/08/2001
               PATENT APPLICATION:  US/09/770,643  TIME: 12:35:21

               Input Set : A:\LEX122 SEQLIST.txt
               Output Set: N:\CRF3\02082001\I770643.raw
```

ENTERED

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      4 <110> APPLICANT: LEXICON GENETICS INCORPORATED
      6 <120> TITLE OF INVENTION: Novel Human Neurexin-like Proteins and Polynucleotides Encoding the
      7        Same
      9 <130> FILE REFERENCE: LEX-0122-PCT
C--> 11 <140> CURRENT APPLICATION NUMBER: US/09/770,643
C--> 11 <141> CURRENT FILING DATE: 2001-01-26
     11 <150> PRIOR APPLICATION NUMBER: US 60/178,557
     12 <151> PRIOR FILING DATE: 2000-01-26
     14 <150> PRIOR APPLICATION NUMBER: US 60/199,513
     15 <151> PRIOR FILING DATE: 2000-04-25
     17 <160> NUMBER OF SEQ ID NOS: 27
     19 <170> SOFTWARE: FastSEQ for Windows Version 4.0
     21 <210> SEQ ID NO: 1
     22 <211> LENGTH: 3924
     23 <212> TYPE: DNA
     24 <213> ORGANISM: homo sapiens
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     28 ttaggattaa cagcgacaaa ctacaactgt gatgatccac tagcatccct gctctctcca    120
     29 atggcttttt ccagttcctc agacctcact ggcactcaca gcccagctca actcaactgg    180
     30 agagttggaa ctggcggttg gtccccagca gattccaatg ctcaacagtg gctccagatg    240
     31 gacctgggaa acagagtaga gattacagca gtggccacgc agggaagata cggaagctct    300
     32 gactgggtga cgagttacag cctgatgttc agtgacacag gacgcaactg gaaacagtac    360
     33 aaacaagaag acagcatctg gacctttgca ggaaacatga atgctgacag cgtggtgcac    420
     34 cacaagctat tgcactcagt gagagcccga tttgttcgct ttgtgcccct ggaatggaat    480
     35 cccagtggga agattggcat gagagtcgag gtctacggat gttcctataa atcagacgtt    540
     36 gctgactttg atggccgaag ctcacttctg tacaggttca atcagaagtt gatgagtact    600
     37 ctcaaagatg tgatctccct gaagttcaag agcatgcaag gagatggggt cctgttccat    660
     38 ggagaaggtc agcgtggaga ccacatcacc ttggaactcc agaaggggag gctcgcccta    720
     39 cacctcaatt tgggtgacag caaagcgcgg ctcagcagca gcttgcccte tgccaccctg    780
     40 ggcagcctcc tggatgacca gcactggcac tyggtcctca ttgagcgggt gggcaagcag    840
     41 gtgaacttca cggtggacaa gcacacacag cacttccgca ccaagggcga gacggatgcc    900
     42 ttagacattg actatgagct tagtttttgga ggaattccag taccaggaaa acctgggacc    960
     43 tttttaaaga aaaacttcca tggatgcatc gaaaacettt actacaatgg agtaaacata   1020
     44 attracctgg ctaagagacg aaagcatcag atctatactg tgggcaatgt cacttttttcc   1080
     45 tgctccgaac cacagattgt gcccatcaca tttgtyaact ccagcggcag ctatttgctg   1140
     46 ctgcccggca ccccccaaat tgatgggctc tcagtgagtt ccagtttcg aacatggaac   1200
     47 aaggatggtc tgcttctgtc cacagagctg tctgagggct cgggaaccct gctgctgagc   1260
     48 ctggagggtg aatcctgag actcgtgatt cagaaaatga cagaacgcgt agctgaaatc   1320
     49 ctcacaggca gcaacttgaa tgatggcctg tggcactcgg ttagcatcaa cgccaggagg   1380
     50 aaccgcatca cgctcactct ggatgatgaa gcagcacccc cggctccaga cagcacttgg   1440
     51 gtgcagattt attctggaaa tagctactat tttggagggt gccccgacaa tctcaccgat   1500
     52 tcccaatgtt taaatcccat taaggctttc caaggctgca tgaggctcat ctttattgat   1560
     53 aaccagccca aggacctcat ttcagttcag caaggttccc tggggaattt tagtgattta   1620
     54 cacattgatc tgtgtagcat caaagacagg tgtttgccaa actactgtga acatggagga   1680
     55 agctgctccc agtcctggac taccttctat tgtaactgca gtgacacaag ttacactggt   1740
     56 gccacctgcc acaactccat ctacgagcaa tcctgcgagg tgtacaggca ccagggggaat   1800
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RAW SEQUENCE LISTING   DATE: 02/08/2001
PATENT APPLICATION: US/09/770,643   TIME: 12:35:21

Input Set : A:\LEX122 SEQLIST.txt
Output Set: N:\CRF3\02082001\I770643.raw

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58 tactgcaata tcactgagga caagatctgg acatcagtgc agcacaacaa tacagagctg   1920
59 acccgagtgc ggggcgctaa ccctgagaag ccctatgcca tggccttgga ctacgggggc   1980
60 agcatggaac agctggaggc cgtgatcgac ggctctgagc actgtgagca ggaggtggcc   2040
61 taccactgca ggaggtcccg cctgctcaac acgccggatg gaacaccatt tacctggtgg   2100
62 attgggcggt ccaatgaaag gcacccttac tggggaggtt ccctcctgg ggtccagcag   2160
63 tgtgagtgtg gcctagacga gagctgcctg gacattcagc acttttgcaa ttgcgacgct   2220
64 gacaaggatg aatggacaaa tgatactggc tttctttcct tcaaagacca cttgcctgtc   2280
65 actcagatag ttatcactga taccgacaga tcaaactcag aagccgcttg gagaattggt   2340
66 cccttgcgtt gctatggtga ccgacgcttc tggaacgccg tctcatttta tacagaagcc   2400
67 tcttacctcc actttcctac cttccatgcg gaattcagtg ccgatatttc cttctttttt   2460
68 aaaaccacag cattatccgg agttttccta gaaaatcttg gcattaaaga cttcattcga   2520
69 ctcgaaataa gctctccttc agagatcacc tttgccatcg atgttgggaa tggtcctgtg   2580
70 gagcttgtag tccagtctcc ttctcttctg aatgacaacc aatggcacta tgtccgggct   2640
71 gagaggaacc tcaaggagac ctccctgcag gtggacaacc ttccaaggag caccaggag   2700
72 acgtcggagg agggccattt tcgactgcag ctgaacagcc agttgtttgt aggggggaacg   2760
73 tcatccagac agaaaggctt cctaggatgc attcgctcct tacacttgaa tggacagaaa   2820
74 atggacctgg aagagagggc aaaggtcaca tctggagtca ggccaggctg ccccggccac   2880
75 tgcagcagct acggcagcat ctgccacaac gggggcaagt gtgtggagaa gcacaatggc   2940
76 tacctgtgtg attgcaccaa ttcaccttat gaagggccct tttgcaaaaa agaggtttct   3000
77 gctgtttttg aggctggcac gtcggttact tacatgtttc aagaacccta tcctgtgacc   3060
78 aagaatataa gcctctcatc ctcagctatt tacacagatt cagctccatc caaggaaaac   3120
79 attgcactta gctttgtgac aacccaggca cccagtcttt tgctctttat caattcttct   3180
80 tctcaggact tcgtggttgt tctgctctgc aagaatggaa gcttacaggt tcgctatcac   3240
81 ctaaacaagg aagaaaccca tgtattcacc attgatgcag ataactttgc taacagaagg   3300
82 atgcaccact tgaagattaa ccgagaggga agagagctta ccattcagat ggaccagcaa   3360
83 cttcgactca gttataactt ctctccggaa gtagagttca gggttataag gtcactcacc   3420
84 ttgggcaaag tcacagagaa tcttggtttg gattctgaag ttgctaaagc aaatgccatg   3480
85 ggttttgctg gatgcatgtc ttccgtccag tacaaccaca tagcaccact gaaggctgcc   3540
86 ctgcgccatg ccactgtcgc gcctgtgact gtccatggga ccttgacgga atccagctgt   3600
87 ggcttcatgg tggactcaga tgtgaatgca gtgaccacgg tgcattcttc atcagatcct   3660
88 tttgggaaga cagatgagcg ggaaccactc acaaatgctg ttcgaagtga ttcggcagtc   3720
89 atcggagggg tgatagcagt ggtgatattc atcatcttct gtatcatcgg catcatgacc   3780
90 cggttcctct accagcacaa gcagtcacat cgtacgagcc agatgaagga gaaggaatat   3840
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92 tgtaaacggg aatatttcat ctga                                          3924
94 <210> SEQ ID NO: 2
95 <211> LENGTH: 1307
96 <212> TYPE: PRT
97 <213> ORGANISM: homo sapiens
99 <220> FEATURE:
100 <221> NAME/KEY: VARIANT
101 <222> LOCATION: (1)...(1307)
102 <223> OTHER INFORMATION: Xaa = Any Amino Acid
104 <400> SEQUENCE: 2
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106 1               5                  10                  15
107 Gly Leu Trp His Leu Gly Leu Thr Ala Thr Asn Tyr Asn Cys Asp Asp
108            20                  25                  30
```

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      109 Pro Leu Ala Ser Leu Leu Ser Pro Met Ala Phe Ser Ser Ser Ser Asp
      110         35                  40                  45
      111 Leu Thr Gly Thr His Ser Pro Ala Gln Leu Asn Trp Arg Val Gly Thr
      112         50                  55                  60
      113 Gly Gly Trp Ser Pro Ala Asp Ser Asn Ala Gln Gln Trp Leu Gln Met
      114 65                  70                  75                  80
      115 Asp Leu Gly Asn Arg Val Glu Ile Thr Ala Val Ala Thr Gln Gly Arg
      116             85                  90                  95
      117 Tyr Gly Ser Ser Asp Trp Val Thr Ser Tyr Ser Leu Met Phe Ser Asp
      118         100                 105                 110
      119 Thr Gly Arg Asn Trp Lys Gln Tyr Lys Gln Glu Asp Ser Ile Trp Thr
      120         115                 120                 125
      121 Phe Ala Gly Asn Met Asn Ala Asp Ser Val Val His Lys Leu Leu
      122     130                 135                 140
      123 His Ser Val Arg Ala Arg Phe Val Arg Phe Val Pro Leu Glu Trp Asn
      124 145                 150                 155                 160
      125 Pro Ser Gly Lys Ile Gly Met Arg Val Glu Val Tyr Gly Cys Ser Tyr
      126             165                 170                 175
      127 Lys Ser Asp Val Ala Asp Phe Asp Gly Arg Ser Ser Leu Leu Tyr Arg
      128         180                 185                 190
      129 Phe Asn Gln Lys Leu Met Ser Thr Leu Lys Asp Val Ile Ser Leu Lys
      130         195                 200                 205
      131 Phe Lys Ser Met Gln Gly Asp Gly Val Leu Phe His Gly Glu Gly Gln
      132     210                 215                 220
      133 Arg Gly Asp His Ile Thr Leu Glu Leu Gln Lys Gly Arg Leu Ala Leu
      134 225                 230                 235                 240
      135 His Leu Asn Leu Gly Asp Ser Lys Ala Arg Leu Ser Ser Ser Leu Pro
      136             245                 250                 255
W--> 137 Ser Ala Thr Leu Gly Ser Leu Leu Asp Asp Gln His Trp His Xaa Val
      138         260                 265                 270
      139 Leu Ile Glu Arg Val Gly Lys Gln Val Asn Phe Thr Val Asp Lys His
      140         275                 280                 285
      141 Thr Gln His Phe Arg Thr Lys Gly Glu Thr Asp Ala Leu Asp Ile Asp
      142     290                 295                 300
      143 Tyr Glu Leu Ser Phe Gly Gly Ile Pro Val Pro Gly Lys Pro Gly Thr
      144 305                 310                 315                 320
      145 Phe Leu Lys Lys Asn Phe His Gly Cys Ile Glu Asn Leu Tyr Tyr Asn
      146             325                 330                 335
W--> 147 Gly Val Asn Ile Ile Xaa Leu Ala Lys Arg Arg Lys His Gln Ile Tyr
      148         340                 345                 350
      149 Thr Val Gly Asn Val Thr Phe Ser Cys Ser Glu Pro Gln Ile Val Pro
      150         355                 360                 365
      151 Ile Thr Phe Val Asn Ser Ser Gly Ser Tyr Leu Leu Leu Pro Gly Thr
      152     370                 375                 380
      153 Pro Gln Ile Asp Gly Leu Ser Val Ser Phe Gln Phe Arg Thr Trp Asn
      154 385                 390                 395                 400
      155 Lys Asp Gly Leu Leu Leu Ser Thr Glu Leu Ser Glu Gly Ser Gly Thr
      156             405                 410                 415
      157 Leu Leu Leu Ser Leu Glu Gly Gly Ile Leu Arg Leu Val Ile Gln Lys
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RAW SEQUENCE LISTING   DATE: 02/08/2001
PATENT APPLICATION: US/09/770,643   TIME: 12:35:21

Input Set : A:\LEX122 SEQLIST.txt
Output Set: N:\CRF3\02082001\I770643.raw

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158              420              425              430
159 Met Thr Glu Arg Val Ala Glu Ile Leu Thr Gly Ser Asn Leu Asn Asp
160          435              440              445
161 Gly Leu Trp His Ser Val Ser Ile Asn Ala Arg Arg Asn Arg Ile Thr
162      450              455              460
163 Leu Thr Leu Asp Asp Glu Ala Ala Pro Pro Ala Pro Asp Ser Thr Trp
164 465              470              475              480
165 Val Gln Ile Tyr Ser Gly Asn Ser Tyr Tyr Phe Gly Gly Cys Pro Asp
166              485              490              495
167 Asn Leu Thr Asp Ser Gln Cys Leu Asn Pro Ile Lys Ala Phe Gln Gly
168          500              505              510
169 Cys Met Arg Leu Ile Phe Ile Asp Asn Gln Pro Lys Asp Leu Ile Ser
170      515              520              525
171 Val Gln Gln Gly Ser Leu Gly Asn Phe Ser Asp Leu His Ile Asp Leu
172      530              535              540
173 Cys Ser Ile Lys Asp Arg Cys Leu Pro Asn Tyr Cys Glu His Gly Gly
174 545              550              555              560
175 Ser Cys Ser Gln Ser Trp Thr Thr Phe Tyr Cys Asn Cys Ser Asp Thr
176              565              570              575
177 Ser Tyr Thr Gly Ala Thr Cys His Asn Ser Ile Tyr Glu Gln Ser Cys
178          580              585              590
179 Glu Val Tyr Arg His Gln Gly Asn Thr Ala Gly Phe Phe Tyr Ile Asp
180      595              600              605
181 Ser Asp Gly Ser Gly Pro Leu Gly Pro Leu Gln Val Tyr Cys Asn Ile
182      610              615              620
183 Thr Glu Asp Lys Ile Trp Thr Ser Val Gln His Asn Asn Thr Glu Leu
184 625              630              635              640
185 Thr Arg Val Arg Gly Ala Asn Pro Glu Lys Pro Tyr Ala Met Ala Leu
186          645              650              655
187 Asp Tyr Gly Gly Ser Met Glu Gln Leu Glu Ala Val Ile Asp Gly Ser
188          660              665              670
189 Glu His Cys Glu Gln Glu Val Ala Tyr His Cys Arg Arg Ser Arg Leu
190      675              680              685
191 Leu Asn Thr Pro Asp Gly Thr Pro Phe Thr Trp Trp Ile Gly Arg Ser
192      690              695              700
193 Asn Glu Arg His Pro Tyr Trp Gly Gly Ser Pro Pro Gly Val Gln Gln
194 705              710              715              720
195 Cys Glu Cys Gly Leu Asp Glu Ser Cys Leu Asp Ile Gln His Phe Cys
196              725              730              735
197 Asn Cys Asp Ala Asp Lys Asp Glu Trp Thr Asn Asp Thr Gly Phe Leu
198          740              745              750
199 Ser Phe Lys Asp His Leu Pro Val Thr Gln Ile Val Ile Thr Asp Thr
200          755              760              765
201 Asp Arg Ser Asn Ser Glu Ala Ala Trp Arg Ile Gly Pro Leu Arg Cys
202      770              775              780
203 Tyr Gly Asp Arg Arg Phe Trp Asn Ala Val Ser Phe Tyr Thr Glu Ala
204 785              790              795              800
205 Ser Tyr Leu His Phe Pro Thr Phe His Ala Glu Phe Ser Ala Asp Ile
206              805              810              815
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RAW SEQUENCE LISTING   DATE: 02/08/2001
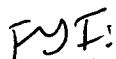PATENT APPLICATION: US/09/770,643   TIME: 12:35:21

Input Set : A:\LEX122 SEQLIST.txt
Output Set: N:\CRF3\02082001\I770643.raw

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207 Ser Phe Phe Phe Lys Thr Thr Ala Leu Ser Gly Val Phe Leu Glu Asn
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209 Leu Gly Ile Lys Asp Phe Ile Arg Leu Glu Ile Ser Ser Pro Ser Glu
210             835             840             845
211 Ile Thr Phe Ala Ile Asp Val Gly Asn Gly Pro Val Glu Leu Val Val
212     850             855             860
213 Gln Ser Pro Ser Leu Leu Asn Asp Asn Gln Trp His Tyr Val Arg Ala
214 865             870             875             880
215 Glu Arg Asn Leu Lys Glu Thr Ser Leu Gln Val Asp Asn Leu Pro Arg
216             885             890             895
217 Ser Thr Arg Glu Thr Ser Glu Glu Gly His Phe Arg Leu Gln Leu Asn
218             900             905             910
219 Ser Gln Leu Phe Val Gly Gly Thr Ser Ser Arg Gln Lys Gly Phe Leu
220     915             920             925
221 Gly Cys Ile Arg Ser Leu His Leu Asn Gly Gln Lys Met Asp Leu Glu
222     930             935             940
223 Glu Arg Ala Lys Val Thr Ser Gly Val Arg Pro Gly Cys Pro Gly His
224 945             950             955             960
225 Cys Ser Ser Tyr Gly Ser Ile Cys His Asn Gly Gly Lys Cys Val Glu
226             965             970             975
227 Lys His Asn Gly Tyr Leu Cys Asp Cys Thr Asn Ser Pro Tyr Glu Gly
228             980             985             990
229 Pro Phe Cys Lys Lys Glu Val Ser Ala Val Phe Glu Ala Gly Thr Ser
230             995             1000            1005
231 Val Thr Tyr Met Phe Gln Glu Pro Tyr Pro Val Thr Lys Asn Ile Ser
232     1010            1015            1020
233 Leu Ser Ser Ser Ala Ile Tyr Thr Asp Ser Ala Pro Ser Lys Glu Asn
234 1025            1030            1035            1040
235 Ile Ala Leu Ser Phe Val Thr Thr Gln Ala Pro Ser Leu Leu Leu Phe
236             1045            1050            1055
237 Ile Asn Ser Ser Ser Gln Asp Phe Val Val Val Leu Leu Cys Lys Asn
238             1060            1065            1070
239 Gly Ser Leu Gln Val Arg Tyr His Leu Asn Lys Glu Glu Thr His Val
240             1075            1080            1085
241 Phe Thr Ile Asp Ala Asp Asn Phe Ala Asn Arg Arg Met His His Leu
242     1090            1095            1100
243 Lys Ile Asn Arg Glu Gly Arg Glu Leu Thr Ile Gln Met Asp Gln Gln
244 1105            1110            1115            1120
245 Leu Arg Leu Ser Tyr Asn Phe Ser Pro Glu Val Glu Phe Arg Val Ile
246             1125            1130            1135
247 Arg Ser Leu Thr Leu Gly Lys Val Thr Glu Asn Leu Gly Leu Asp Ser
248             1140            1145            1150
249 Glu Val Ala Lys Ala Asn Ala Met Gly Phe Ala Gly Cys Met Ser Ser
250             1155            1160            1165
251 Val Gln Tyr Asn His Ile Ala Pro Leu Lys Ala Ala Leu Arg His Ala
252     1170            1175            1180
253 Thr Val Ala Pro Val Thr Val His Gly Thr Leu Thr Glu Ser Ser Cys
254 1185            1190            1195            1200
255 Gly Phe Met Val Asp Ser Asp Val Asn Ala Val Thr Thr Val His Ser
```

FYI:

Please Note:
Use of n and/or Xaa have been detected in the Sequence Listing. Please review the
Sequence Listing to ensure that a corresponding explanation is presented in the <220> to
<223> fields of each sequence which presents at least one n or Xaa.

VERIFICATION SUMMARY   DATE: 02/08/2001
PATENT APPLICATION: US/09/770,643   TIME: 12:35:22

          Input Set : A:\LEX122 SEQLIST.txt
          Output Set: N:\CRF3\02082001\I770643.raw

L:11 M:270 C: Current Application Number differs, Replaced Current Application No
L:11 M:271 C: Current Filing Date differs, Replaced Current Filing Date
L:137 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2
L:147 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2
L:383 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4
L:655 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10
L:740 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:12
L:750 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:12
L:860 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:14
L:985 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:16
L:995 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:16
L:1133 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:18
L:1282 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:20
L:1292 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:20
L:1447 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:22